



USC University of
Southern California

Chronotypes

Sleep and Productivity

USC



Kortschak Center *for*
Learning and Creativity

Chronotypes

- **Chronotypes:**
 - A body's natural disposition to wake or sleep at different times
 - Closely related to the Circadian Rhythm
 - Normal for chronotypes to change with age (Breus, 2016).
 - Signifies prime alertness and productivity
- There are actually 4 different chronotypes!
 - The **Wolf, Bear, Lion, and Dolphin**
- Click this link to see what chronotype you are:

[Sleep Quiz from The Sleep Doctor](#)

Which chronotype are you?



Loves an early start and an early night. Mornings are your jam.



THE LION CHRONOTYPE

PERSONALITY TRAITS:

Optimistic,
natural leaders

PRODUCTIVITY POWER HOURS:

7am-12pm

IDEAL SLEEP PATTERN:

Wake up at 5am
Bedtime at 9pm

Calm

Lion

- About 15-20% of total population
- Most productive in the morning
- **Challenges:** Exhaustion in the afternoon, decreased productivity

(Breus, 2016; Calm, 2023)

*Gets up and goes to bed
when the sun rises and sets.*



THE BEAR CHRONOTYPE

PERSONALITY TRAITS:

Extroverted,
open-minded

PRODUCTIVITY POWER HOURS:

10am - 2pm

IDEAL SLEEP PATTERN:

Wake up at 7am
Bedtime at 11pm

Calm

Bear

- About 55% of total population
- Most productive peak early morning and late afternoon
- **Challenges:** Lack of adherence to circadian rhythms, leads to fatigue

(Breus, 2016; Calm, 2023)

*Trouble waking in the morning.
Only gets going at night.*



THE WOLF CHRONOTYPE

PERSONALITY TRAITS:

Creative,
risk-takers

PRODUCTIVITY POWER HOURS:

10am-5pm

IDEAL SLEEP PATTERN:

Wake up at 8am
Bedtime at 12am

Calm

Wolf

- About 15-20% of total population
- Most productive in the evening
- **Challenges:** Difficulties aligning with the early schedules in society, leading to sleep deprivation

(Breus, 2016; Calm, 2023)

Struggles to fall asleep and stay asleep. Often feels tired.



THE DOLPHIN CHRONOTYPE

PERSONALITY TRAITS:

Intelligent,
detail-oriented

PRODUCTIVITY POWER HOURS:

Random bursts

IDEAL SLEEP PATTERN:

Varies

Calm

Dolphin

- About 10% of the total population
- Most productive in the late afternoon-night
- **Challenges:** Very sensitive to external factors, light and noise leading to insomnia

(Breus, 2016; Calm, 2023)

Importance of Chronotypes

- **Sleep** and **productivity** are closely related
 - Knowing one's chronotype can lead to improvements in both (Pacheco, 2023)
- Effects of **Inadequate** Sleep
 - Fatigue, physical pain, memory impairment, and decreased attention
 - Prolonged cases can lead to chronic health conditions
- Effects of **Adequate** Sleep
 - Higher cognitive functioning, increased moods, and better health outcomes
- Variance in sleep schedules
 - Chronotypes can help create a consistent sleep schedule
 - Recommended 7 hours of sleep a night

(Worley et al., 2018)

Daily Schedule Example (Lion and Bear)

- Lion
 - Wake-up 5am
 - Bedtime 9pm
 - Study and hard classes: morning time before lunch (7am-12pm)
 - Afternoon workouts and naps
 - Relaxing evening
- Bear
 - Wake up 7am
 - Bedtime 10pm
 - Study and hard classes: mid-morning to mid-afternoon (10am-2pm)
 - Afternoon naps, early afternoon caffeine

Daily Schedule Example (Wolf and Dolphin)

- Wolf
 - Wake-up 8am
 - Bedtime 12pm
 - Study and hard classes: 10am-5pm
 - Afternoon workout and fun activities
- Dolphin
 - Wake-up varies
 - Bedtime varies
 - Study and hard classes: varies

Tips for Success

To achieve adequate sleep, here are some tips and facts to remember:

- **Daily Routine**
 - Go to bed and rise at the **same** time every day
 - Create a catered schedule to adhere to your chronotype
 - Limit technology use before bed
- Moderate your caffeine consumption (Caffeine has a half-life of five hours).
- **Fact:** Sleep is highly individualized!
- **Fact:** No such thing as "catching up" on sleep!

References

Breus, M. (2016, September 13). *The Power of When*. Little, Brown Spark.

Pacheco, D. (2023, March 2). *Chronotypes*. Sleep Foundation. <https://www.sleepfoundation.org/how-sleep-works/chronotypes>

Worley S. L. (2018). The Extraordinary Importance of Sleep: The Detrimental Effects of Inadequate Sleep on Health and Public Safety Drive an Explosion of Sleep Research. *P & T : a peer-reviewed journal for formulary management*, 43(12), 758–763.

Illustration Reference

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<https://blog.calm.com/blog/sleep-chronotypes>